

**REMARKS**

This amendment is filed in response to the final Office Action dated January 18, 2007. In view of these amendment and remarks, this amendment should be entered, the application allowed, and the case passed to issue. This amendment should be entered as no new matter or considerations are introduced by this amendment, and this amendment clearly places the application in condition for allowance.

Claims 1 and 5-8 are pending in this application. Claims 1 and 5-8 are rejected. Claims 1, 6, 7, and 8 have been amended in this response. Claims 2-4 were previously canceled.

***Claim Rejections Under 35 U. S. C. § 103***

Claims 1, 5, and 8 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Kasajima et al. (*Electrochemical Intercalation/Deintercalation of Lithium at an Isotropic Graphite in a LiBr-KBr-CsBr Eutectic Melt*) in view of Neipert et al. (U.S. Pat. No. 2,913,332). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention, as claimed, and the cited prior art.

An aspect of the present invention, per claim 1, is a molten salt bath for electroforming a metal product. The molten salt bath contains lithium bromide, cesium bromide, and a halide of an alkali metal and/or a halide of an alkaline-earth metal. The sum of a mole fraction of the lithium bromide and a mole fraction of the cesium bromide is set to be within a range from at least 0.5 to less than 0.95 with respect to the entire molten salt bath for electroforming. A mole ratio of the lithium bromide to the cesium bromide (lithium bromide/cesium bromide) is set to be within a range from at least 1.8 to at most 2.5. The halide of the alkali metal is potassium bromide. The metal product is composed of chromium or tungsten.

Another aspect of the invention, per claim 8, is a molten salt bath for electroforming a metal product obtained by mixing lithium bromide, cesium bromide, and a halide of an alkali metal and/or a halide of an alkaline-earth metal. The sum of a mole fraction of the lithium bromide and a mole fraction of the cesium bromide is set to be within a range from at least 0.5 to less than 0.95 with respect to the entire molten salt bath for electroforming. A mole ratio of the lithium bromide to the cesium bromide (lithium bromide/cesium bromide) is set to be within a range from at least 1.8 to at most 2.5. The halide of the alkali metal is potassium bromide. The metal product is composed of chromium or tungsten.

The Examiner asserted that Kasajima et al. teach a molten salt bath for electrodeposition, containing lithium bromide, potassium bromide, and cesium bromide with a respective mole fraction of 56.1:18.9:25.0. The Examiner acknowledged that Kasajima et al. do not teach the specific metal product. The Examiner relied on the Neipert et al. teaching of producing titanium metal using a molten salt bath to conclude that it would have been obvious to modify the Kasajima et al. molten salt bath to form titanium metal because it can be formed economically at low temperature.

Kasajima et al. and Neipert et al., whether taken alone, or in combination, do not suggest the claimed molten salt bath and method of manufacturing a metal product because Kasajima et al. and Neipert et al. do not suggest that the metal product is composed of chromium or tungsten, as required by claims 1 and 8. Kasajima et al. disclose a molten salt bath applied to intercalation/deintercalation of lithium at an isotropic graphite. Molten salt baths in accordance with the present invention are directed to electroforming with an electroforming mold. In the molten salt bath of Kasajima et al. lithium is precipitated. On the other hand, in molten salt baths according to claims 1 and 8, chromium or tungsten is formed. Neipert et al. do not cure the

deficiencies of Kasajima et al., as Neipert et al. do not suggest electroforming chromium or tungsten.

Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kasajima et al. in view of Uriu et al. (U.S. Pat. No. 5,647,966) and Neipert et al. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner acknowledged that Kasajima et al. do not teach a resist to selectively mask the substrate or the specific metal. The Examiner relied on the teaching of Uriu et al. of forming a resist pattern on a conductive substrate and exposing a portion of the conductive substrate and precipitating a metal at a portion where the conductive substrate is exposed to assert that it would have been obvious to modify the method of Kasajima et al. to selectively deposit metal on an exposed area of a conductive substrate. The Examiner relied on the Neipert et al. teaching of producing titanium metal using a molten salt bath to conclude that it would have been obvious to modify the Kasajima et al. molten salt bath to form titanium metal because it can be formed economically at low temperature.

Kasajima et al., Neipert et al. and Uriu et al., whether taken alone, or in combination, however, do not suggest the claimed method because neither Kasajima et al., Neipert et al., nor Uriu et al. suggest a molten salt bath for electroforming containing chromium or tungsten to be precipitated and/or a compound of chromium or tungsten to be precipitated and precipitating the chromium or tungsten at a portion where the conductive substrate is exposed, as required by claim 6.

Kasajima et al. do not suggest that the molten salt bath could be used for other than intercalation/deintercalation of lithium at an isotropic graphite. Further, Uriu et al. do not suggest that alkali bromide can be applied to an electrolytic bath disclosed in Uriu et al. Whether

a metal added into a molten salt bath can be satisfactorily precipitated depends on the combination of the metal and the molten salt bath. Neither Kasajima et al., Neipert et al. nor Uriu et al. suggest the combination of metals and molten salt baths for electroforming containing chromium or tungsten to be precipitated and/or a compound of chromium or tungsten precipitated and precipitating the chromium or tungsten at a portion where the conductive substrate is exposed, as required by claim 6.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). There is no suggestion in Kasajima et al., Neipert et al., or Uriu et al. to modify the molten salt bath of Kasajima et al. so that the metal product formed by electroforming is composed of chromium or tungsten, as required by claims 1 and 8; or so that it contains chromium or tungsten to be precipitated and/or a compound of chromium or tungsten to be precipitated and precipitating the chromium or tungsten at a portion where the conductive substrate is exposed, as required by claim 6.

The only teaching of the claimed molten salt baths for electroforming a metal product and method of manufacturing a metal product is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The dependent claims are allowable for at least the same reasons as the independent claims from which they depend.

In view of the above amendments and remarks, Applicants submit that this amendment should be entered, the case allowed, and passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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